

Toward animal-friendly robots

September 6 2018



Credit: CC0 Public Domain

Semi-autonomous and autonomous machines and robots can become moral machines using annotated decision trees containing ethical assumptions or justifications for interactions with animals.

Machine ethics is a young, dynamic discipline, which primarily targets

people, not [animals](#). However, it is important that animals are kept from harm when encountering these machines since animals cannot make informed decisions or react as humans would.

Several prototypes of semi-autonomous and [autonomous machines](#) that do not startle animals in the wild have been developed at the FHNW University in Brugg-Windisch, Switzerland. The prototypes are a ladybird-friendly robot vacuum cleaner, a self-driving car, a drone study for nature photography and advanced driver assistance systems.

The article "Towards animal-friendly machines" by Professor Oliver Bendel of the FHNW School of Business, published in De Gruyter's open access journal Paladyn, Journal of Behavioral Robotics, describes how annotated decision trees for animal-friendly moral [machines](#) are being developed and compared while making the moral justifications transparent.

The modeling for the drone, for example, was presented in 2015 and instructed it to ignore humans, to avoid harming flying birds and to identify skittish animals and only photograph them from an appropriate height.

The robot vacuum cleaner was programmed to identify ladybirds by their coloring, and stop vacuuming until the insect had moved on. Furthermore, the owner could control the morality of the machine by presetting it to spare ladybirds, but vacuum other invasive or undesirable species. This may not seem animal-friendly, but absolute moral rules need not be enforced consistently if, for example, a vermin-free house is justified.

Programming advanced [driver assistance systems](#) (ADAS) in terms of decisions they can make with respect to animals is the main focus of the Robocar design study. The study posits that ADAS should recognize

warning signs for toad migration, hedgehog populations or deer crossings and adapt the car's reactions (emergency brake, reduced speed, etc) accordingly. In short, ADAS systems should identify such [animals](#) and animal species directly and react appropriately.

"Both robotics and computer science must be sensitized to animal protection and advocates for animal ethics should follow developments in robotics and artificial intelligences and should be involved in both," said Professor Bendel.

More information: Oliver Bendel. Towards animal-friendly machines, *Paladyn, Journal of Behavioral Robotics* (2018). [DOI: 10.1515/pjbr-2018-0019](#)

Provided by De Gruyter

Citation: Toward animal-friendly robots (2018, September 6) retrieved 17 July 2024 from <https://phys.org/news/2018-09-animal-friendly-robots.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.